

REMARKS

The office action issued by the Examiner and the citations referred to in the office action have been carefully considered.

Claim 21 has been objected to because of certain informalities. The informality of claim 21 has been corrected.

Claims 38 and 39 have been rejected under 35 U.S.C. 101 as not being proper process claims. These claims have been canceled.

Claim Rejections under 35 U.S.C. 102(b)

Claims 1-4, 6, 9, 21, 22, 24 and 27 have been rejected under 35 U.S.C. 102(b) as being anticipated by Taniguchi (U.S. Patent Publication No. 2002/0070109A1) (hereinafter "Taniguchi '109") with or without evidence from Taniguchi, et al. (U.S. Patent No. 5,935,398) (hereinafter "Taniguchi '398").

The Examiner argues that Taniguchi '109 teaches a hydrocarbon sensor with a substrate and a solid electrolyte with two electrodes (referring to paragraphs [0035] to [0037] and Fig. 1B). The Examiner insists that the first electrode (12a) is made from "a paste containing Au particles and Al particles" which is baked, "forming the electrode containing Au and Al (referring to paragraph [0018]) and the other electrode (12b) can be made of Pt (referring to paragraph [0040]).

Moreover, the Examiner insists in the "Response to Argument" that, although Taniguchi '109 is directed at a hydrocarbon sensor and not a hydrogen sensor, the use of the device is the only intended use and the intended use need not be given further due consideration in determining patentability. The Examiner insists in the "Response to Argument" that Taniguchi '109 states only one of the electrodes needs to be electrode A (referring to paragraph [0037]) and the anode of the cathode that is not the electrode A (i.e., the other electrode) can be made of Pt (referring to paragraph [0040]).

In order to overcome this rejection the claims have been amended so that the solid electrolyte is limited to be made of at least one of phosphorous tungsten acid and phosphorous molybdenum acid (see paragraph [0024] of the specification). According to the solid electrolyte made of phosphorous tungsten acid and phosphorous molybdenum acid, the adhesion between the solid electrolyte and the first electrode and between the solid electrolyte and the second electrode can be enhanced (see paragraph [0024] of the specification).

With regard to Taniguchi '109, the solid electrolyte (substrate) 11 is made of a barium cerium type oxide such as $\text{BaCe}_{0.8}\text{Gd}_{0.2}\text{O}_{3-\alpha}$ and $\text{BaCe}_{0.8}\text{Y}_{0.2}\text{O}_{3-\alpha}$, a barium zirconium type oxide such as $\text{BaZr}_{0.8}\text{Y}_{0.2}\text{O}_{3-\alpha}$ and $\text{BaZr}_{0.4}\text{Ce}_{0.4}\text{In}_{0.2}\text{O}_{3-\alpha}$, or a barium zirconium cerium type oxide such as $\text{BaZr}_{0.6}\text{Ce}_{0.2}\text{Gd}_{0.2}\text{O}_{3-\alpha}$ and $\text{BaZr}_{0.4}\text{Ce}_{0.4}\text{In}_{0.2}\text{O}_{3-\alpha}$. Therefore, Taniguchi '109 cannot exhibit the same function/effect relating to the solid electrolytes as the present invention described above.

Claim Rejections under 35 U.S.C. 103(a)

Claims 7 and 25 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi '109 as applied to claims 1-6, 9, 21-24 and 27 above, and further in view of Makundan, et al. (U.S. Patent No. 6,656,336).

The amendments to claims 1 and 2, from which claims 7 and 25 depend, to add the limitations of the solid electrolyte render these claims patentable over Taniguchi '109 in view of Makundan, et al.

As for the rejection of claims 8 and 25 under 35 U.S.C. 103(a) as being unpatentable over Taniguchi '109 as applied to claims 1-6, 9, 21-24 and 27 above, and further in view of Sugiyama, et al. (U.S. Patent No. 4,704,536), again the limitations of the solid electrolyte in claims 1 and 2 render dependent claims 8 and 26 patentable over Taniguchi '109 in view of Sugiyama, et al.

As for the rejection of claims 10 and 28 under 35 U.S.C. 103(a) as being unpatentable over Taniguchi '109 in view of Yun, et al. (International Patent Application No. 2001/89021), and the rejection of claims 11-16 and 29-34 under 35 U.S.C. 103(a) as being unpatentable over Taniguchi '109 as applied to claims 1-6, 9, 21-24 and 27 above, and further in view of Chirsten,

et al. (U.S. Patent No. 4,390,869), again the limitations of the solid electrolyte in the parent claims render claims 10-16 and 21-28 patentable over Taniguchi '109 in view of Chirsten, et al.

The Examiner states that claims 19 and 37 are allowable only if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Newly added claims 40 and 41 satisfy these requirements.

Conclusion

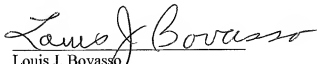
These amendments were not presented earlier since the Examiner raised the issue of the claims not specifying any particular combination of electrodes that would read away from the combination of Taniguchi for the first time in his final rejection.

If the Examiner still believes all these claims are not allowable, he is respectfully requested to enter this amendment for purposes of appeal. The undersigned is also available to discuss any changes to the claims to render them allowable.

It is respectfully submitted that all of the Examiner's objections have been successfully traversed and that the application is now in order for allowance. Accordingly, reconsideration of the application and allowance thereof is courteously solicited. The Director is authorized to charge any additional fee(s) or any underpayment of fee(s), or to credit any overpayments to **Deposit Account Number 50-2638**. Please ensure that Attorney Docket Number 125141-010100 is referred to when charging any payments or credits for this case.

Respectfully submitted,

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